Express Mail Label No.

UTILITY PATENT APPLICATION TRANSMITTAL
(Small Entity)

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Docket No. TTX0164-US
Total Pages in this Submission

TO THE ASSISTANT COMMISSIONER FOR PATENTS
Box Patent Application
Washington, D.C. 20231

Transmitted herewith for filing under 35 U.S.C. 111(a) and 37 C.F.R. 1.53(b) is a new utility patent application for an invention entitled:

INFLATABLE PRODUCT PROVIDED WITH BUILT-IN BATTERY CASE AND SOCKET

and invented by:

CHENG CHUNG WANG

If a CONTINUATION APPLICATION, *check appropriate box and supply the requisite information:*

☐ **Continuation** ☐ **Divisional** ☐ **Continuation-in-part (CIP)** of prior application No.: _____

Which is a:

☐ **Continuation** ☐ **Divisional** ☐ **Continuation-in-part (CIP)** of prior application No.: _____

Which is a:

☐ **Continuation** ☐ **Divisional** ☐ **Continuation-in-part (CIP)** of prior application No.: _____

Enclosed are:

Application Elements

1. ☒ Filing fee as calculated and transmitted as described below
2. ☒ Specification having **8** pages and including the following:
   a. ☒ Descriptive Title of the Invention
   b. ☐ Cross References to Related Applications *(if applicable)*
   c. ☐ Statement Regarding Federally-sponsored Research/Development *(if applicable)*
   d. ☐ Reference to Microfiche Appendix *(if applicable)*
   e. ☒ Background of the Invention
   f. ☒ Brief Summary of the Invention
   g. ☒ Brief Description of the Drawings *(if drawings filed)*
   h. ☒ Detailed Description
   i. ☒ Claim(s) as Classified Below
   j. ☒ Abstract of the Disclosure

UTILITY PATENT APPLICATION TRANSMITTAL
(Small Entity)

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Docket No. TTX0164-US
Total Pages in this Submission

Application Elements (Continued)

3. ☒ Drawing(s) *(when necessary as prescribed by 35 USC 113)*
   a. ☒ Formal b. ☐ Informal Number of Sheets **8 (EIGHT)**
4. ☒ Oath or Declaration
   a. ☒ Newly executed *(original or copy)* ☐ Unexecuted
   b. ☐ Copy from a prior application (37 CFR 1.63(d)) *(for continuation/divisional application only)*
   c. ☒ With Power of Attorney ☐ Without Power of Attorney
   d. ☐ *DELETION OF INVENTOR(S)*
   Signed statement attached deleting inventor(s) named in the prior application, see 37 C.F.R. 1.63(d)(2) and 1.33(b).
5. ☐ Incorporation By Reference *(usable if Box 4b is checked)*
   The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.
6. ☐ Computer Program in Microfiche
7. ☐ Genetic Sequence Submission *(if applicable, all must be included)*
   a. ☐ Paper Copy
   b. ☐ Computer Readable Copy
   c. ☐ Statement Verifying Identical Paper and Computer Readable Copy

Accompanying Application Parts

8. ☒ Assignment Papers *(cover sheet & documents)*
9. ☐ 37 CFR 3.73(b) Statement *(when there is an assignee)*
10. ☐ English Translation Document *(if applicable)*
11. ☐ Information Disclosure Statement/PTO-1449 ☐ Copies of IDS Citations
12. ☐ Preliminary Amendment
13. ☒ Acknowledgment postcard
14. ☐ Certificate of Mailing
    ☐ First Class ☐ Express Mail *(Specify Label No.):* _____

UTILITY PATENT APPLICATION TRANSMITTAL
(Small Entity)

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Docket No. TTX0164-US
Total Pages in this Submission

Accompanying Application Parts (Continued)

15. ☐ Certified Copy of Priority Document(s) *(if foreign priority is claimed)*

16. ☒ Small Entity Statement(s) - Specify Number of Statements Submitted: **1 (ONE)**

17. ☐ Additional Enclosures *(please identify below):*

Fee Calculation and Transmittal

CLAIMS AS FILED

For	#Filed	#Allowed	#Extra	Rate	Fee
Total Claims	6	- 20 =	0	x $9.00	$0.00
Indep. Claims	2	- 3 =	0	x $39.00	$0.00
Multiple Dependent Claims (check if applicable) ☐					$0.00
				BASIC FEE	$345.00
OTHER FEE *(specify purpose)* ASSIGNMENT RECORDATION FEE					~~$0~~.00
				TOTAL FILING FEE	~~$345.00~~ 385.00

☒ A check in the amount of ~~$345.00~~ 385.00 to cover the filing fee is enclosed.

☒ The Commissioner is hereby authorized to charge and credit Deposit Account No. **03-3836** as described below. A duplicate copy of this sheet is enclosed.

- ☐ Charge the amount of as filing fee.
- ☒ Credit any overpayment.
- ☒ Charge any additional filing fees required under 37 C.F.R. 1.16 and 1.17.
- ☐ Charge the issue fee set in 37 C.F.R. 1.18 at the mailing of the Notice of Allowance, pursuant to 37 C.F.R. 1.311(b).

Dated: **APRIL 4, 2000**

41,434

Signature

Michael D. Bednarek
Registration No. 32,329
CROWELL & MORING LLP
1001 Pennsylvania Avenue, N.W.
Washington, D.C. 20004-2595

cc:

Applicant or Patentee: WANG CHENG CHUNG
Serial or Patent No.: New Application
Filed or Issued: June 11, 1999
Attorney's Docket No.: TTX0164-US
For: INFLATABLE PRODUCT PROVIDED WITH BUILT-IN BATTERY CASE AND SOCKET

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS (37 CFR 1.9(f) and 1.27 (c)) - SMALL BUSINESS CONCERN

I hereby declare that I am

(X) the owner of the small business concern identified below:

( ) an official of the small business concern empowered to act on behalf of the concern identified below:

NAME OF CONCERN Team Worldwide Corporation

ADDRESS OF CONCERN 12th/Fl, No. 440, Jen Ai Road, Sec. 4, Taipei, Taiwan, R.O.C.

I hereby declare that the above identified small business concern qualifies as a small business concern as defined in 13 CFR 121.3-18, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention, entitled INFLATABLE PRODUCT PROVIDED WITH BUILT-IN BATTERY CASE AND SOCKET by inventor(s) WANG CHENG CHUNG described in

(X) the specification filed herewith

( ) application serial no. _____, filed _____.

( ) patent no. _____, issued _____.

If the rights held by the above identified small business concern are not exclusive, each individual, concern or organization having rights to the invention is listed below and no rights to the invention are held by any person, other than the inventor, who could not qualify as a small business concern under 37 CFR 1.9(d) or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37.CFR 1.9(e). *NOTE: Separate verified statements are required from each person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

NAME _____

ADDRESS _____

( ) INDIVIDUAL ( ) SMALL BUSINESS CONCERN ( )NONPROFIT ORGANIZATION

FULL NAME _____

ADDRESS _____

( ) INDIVIDUAL ( ) SMALL BUSINESS CONCERN ( )NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING WANG CHENG CHUNG

TITLE OF PERSON OTHER THAN OWNER _____

ADDRESS OF PERSON SIGNING 12th/Fl, No. 440, Jen Ai Road, Sec. 4, Taipei, Taiwan, R.O.C.

SIGNATURE Wang Cheng Chung DATE Mar. 28. 2000

TITLE

INFLATABLE PRODUCT PROVIDED WITH BUILT-IN BATTERY CASE AND SOCKET

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates in general to an inflatable product provided with a built-in battery case and socket.

Description of the Related Art

Referring to Figs. 1A and 1B, a conventional electric pump 14 for inflating an airbed has a fan and motor 142 inside. A plurality of batteries 144 are loaded into the electric pump 14 to supply the power. The airbed 10 is provided with a valve 12. In operation, the electric pump 14 is moved in direction B to connect the valve 12 and then rotated in direction A to fasten the connection between the electric pump 14 and the airbed 10.

SUMMARY OF THE INVENTION

An object of the present invention is to provide a modified airbed, which is inflated and deflated in a different way.

The airbed of the present invention includes an inflatable body, a socket, an electric pump and a battery case. The socket is built in the airbed. The electric pump is detachably connected to the socket to pump the airbed. The battery case is also built in the airbed for receiving batteries to supply the electric pump with power.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention can be more fully understood by reading the subsequent detailed description and examples with references made to the accompanying drawings, wherein:

Fig. 1A depicts a conventional airbed;

Fig. 1B is a sectional view along line I-I in Fig. 1A;

Fig. 2 locally depicts an airbed in accordance with a first embodiment of the present invention;

Fig. 3A shows the inflating operation of the airbed of the first embodiment;

Fig. 3B shows the deflating operation of the airbed of the first embodiment;

Fig. 4 locally depicts an airbed in accordance with a second embodiment of the present invention;

Fig. 5 is a perspective diagram of the electric pump of the second embodiment;

Figs. 6A, 6B and 6C show the inflating operation of the airbed of the second embodiment;

Figs. 7A and 7B show the deflating operation of the airbed of the second embodiment.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to Fig. 2, an airbed 26 of a first embodiment of the present invention is provided with a detachable electric pump 20, a built-in battery case 22 and a built-in socket 24. The battery case 22 has a cover 221 on which electrodes 222 are provided. Also, on the bottom of the battery case 22 are provided electrodes 223 corresponding to the electrodes 222 of the cover 221. An O-ring 244 and an electrode 242 are provided on the inner wall of the socket 24, wherein the electrode 242 is electrically connected to the electrodes 222, 223 of the

battery case 22. Furthermore, the electric pump 20 is substantially cylindrical and has an electrode 202 on its side surfaces, an air inlet 204 and an air outlet 206 on its ends and a check valve 208 inside. The check valve 208 of the electric pump allows air to flow in a single direction from the inlet 204 to the outlet 206.

In operation, batteries are loaded into the battery case 22. The electric pump 20 is fitted into the socket 24 and then rotated so that the electrode 202 of the electric pump 20 contacts the electrode 242 of the socket 24. Then, the electric pump 20 is actuated to pump outside air into the airbed 26 as shown in Fig. 3A. The O-ring 242 in the socket 24 prevents the airbed 26 from leaking. In deflating operation, the user detaches the electric pump 20 from the socket 24 to deflate the airbed 26, as shown in Fig. 3B.

It is understood that the O-ring can be provided on the side surfaces of the electric pump 20 instead of in the socket 24 to prevent the airbed from leaking.

Referring to Fig. 4, an airbed of a second embodiment of the present invention is provided with a detachable electric pump 30, a cap 37 for the electric pump 30, a built-in battery case 32 and a built-in socket 34. The battery case 32 has a cover 321 on which electrodes 322 are provided. Also, on the bottom of the battery case 32 are provided electrodes 323 corresponding to the electrodes 322 of the cover 321. Furthermore, an arrow symbol 36 is marked on the airbed and besides the socket 34. Flanges 342 are formed at the rim of the socket 34, while electrodes 344 are provided on the inner wall of the socket 34 and are electrically connected to the electrodes 322, 323 of the battery case 32. Furthermore, the electric pump 30 is

substantially cylindrical and has a flange 301 on its side surfaces, two electrodes 302 provided on the flange 301, an air inlet 304 and an air outlet 306 on its ends. Also referring to Fig. 5, symbols "on", "off" and "open" are marked on the side surfaces and the end of the electric pump 30.

In operation, batteries are loaded into the battery case 32 to supply the electric pump 30 with the power. The electric pump 30 in this embodiment is used to inflate or deflate the airbed. In inflating operation, the electric pump 30 is fitted into the socket 34 with the air outlet 306 inside the airbed and the air inlet 304 outside the airbed. The electric pump 30 is rotated to change the positions of symbols "on", "off" and "open". When the arrow symbol 36 points at the symbol "on" as shown in Fig. 6A, the electrodes 302 of the electric pump 30 contact the electrodes 344 of the socket 34 to actuate the electric pump 30. Then, outside air is pumped into the airbed as shown in Fig. 6B. When the arrow symbol 36 points at the symbol "off", the electric pump 30 is stopped. When the arrow symbol 36 points at the symbol "open", the electric pump 30 is detachable from the socket 34. Fig. 6C depicts the airbed full of air, wherein the air outlet of the electric pump 30 is closed by the cap 37 to seal the airbed after the inflating operation.

In deflating operation, the electric pump 30 is reversely fitted into the socket 34, with the air inlet 304 inside the airbed and the air outlet 306 outside the airbed. The electric pump 30 is rotated to change the positions of symbols "on", "off" and "open" on its side surfaces. When the arrow symbol 36 points at the symbol "on" as shown in Fig. 7A, the electrodes 302 of the electric pump 30 contact the electrodes 344 of the socket 34 to actuate the electric pump 30. Then, air inside the airbed

is pumped out as shown in Fig. 7B. When the arrow symbol 36 points at the symbol "off", the electric pump 30 is stopped. When the arrow symbol 36 points at the symbol "open", the electric pump 30 is detachable from the socket 34.

In either of the inflating and deflating operations, the flanges 342 of the socket 34 are used for confining the flange 301 of the electric pump 30, thus preventing the electric pump 30 from separating with the socket 34 when the arrow symbol 36 points at the symbols "on" and "off". However, the flanges 342 are spaced apart at the rim of the socket 34 to avoid confining the flange 301 of the electric pump 30 when the arrow symbol 36 points at the symbol "open". Thus, the electric pump 30 is detachable from the socket 34 when the arrow symbol 36 points at the symbol "open".

While the invention has been described by way of example and in terms of the preferred embodiment, it is to be understood that the invention is not limited to the disclosed embodiments. To the contrary, it is intended to cover various modifications and similar arrangements (as would be apparent to those skilled in the art). Therefore, the scope of the appended claims should be accorded the broadest interpretation so as to encompass all such modifications and similar arrangements.

What Is Claimed Is:

1. An inflatable product including:

an inflatable body;

a socket built in the inflatable body;

an electric pump detachably connected to the socket to pump the inflatable body; and

a battery case also built in the inflatable body for receiving batteries to supply the electric pump with power.

2. An inflatable product as claimed in claim 1, wherein the socket has first electrodes inside to electrically connect the batteries, the electric pump has second electrodes, the electric pump is actuated to pump the inflatable body when the electric pump is rotated to a first position so that the second electrodes contact the first electrodes, and the electric pump is stopped when the electric pump is rotated to a second position so that the first and second electrodes separate.

3. An inflatable product as claimed in claim 2, wherein the socket further has confining means for preventing the electric pump from separating with the socket when the electric pump is at the first and second positions, and the electric pump is released from the confining means when the electric pump is rotated to a third position.

4. A method including the steps of:

(a) preparing an electric pump and an inflatable product having a built-in socket and a built-in battery case;

(b) loading batteries into the battery case; and

(c) connecting the electric pump to the socket to pump the inflatable product, wherein the batteries supply the electric pump with power.

5. A method as claimed in claim 4, further including the step of separating the electric pump from the socket to directly deflate the inflatable product through the socket.

6. A method as claimed in claim 4, further including the step of:

(d) separating the electric pump from the socket;

(e) reversely connecting the electric pump to the socket to pump air inside the inflatable product out.

Client's ref.:--
File:0194-5304US/Final/Shen

TITLE

INFLATABLE PRODUCT PROVIDED WITH BUILT-IN BATTERY CASE AND SOCKET

ABSTRACT OF THE DISCLOSURE

An inflatable product includes an inflatable body, a socket, an electric pump and a battery case. The socket is built in the inflatable body. The electric pump is detachably connected to the socket to pump the inflatable body. The battery case is also built in the inflatable body for receiving batteries to supply the electric pump with power.

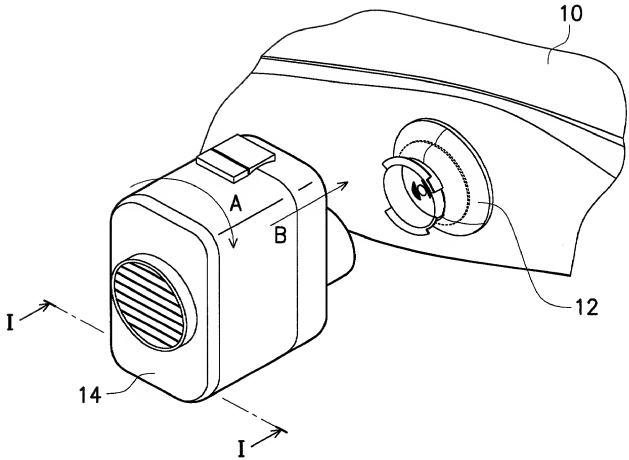

FIG. 1A (PRIOR ART)

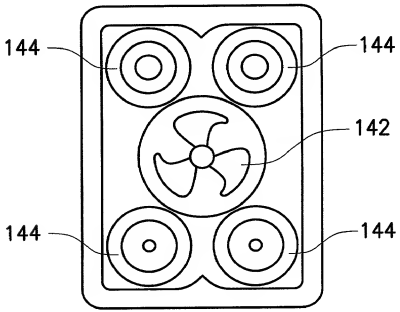

FIG. 1B (PRIOR ART)

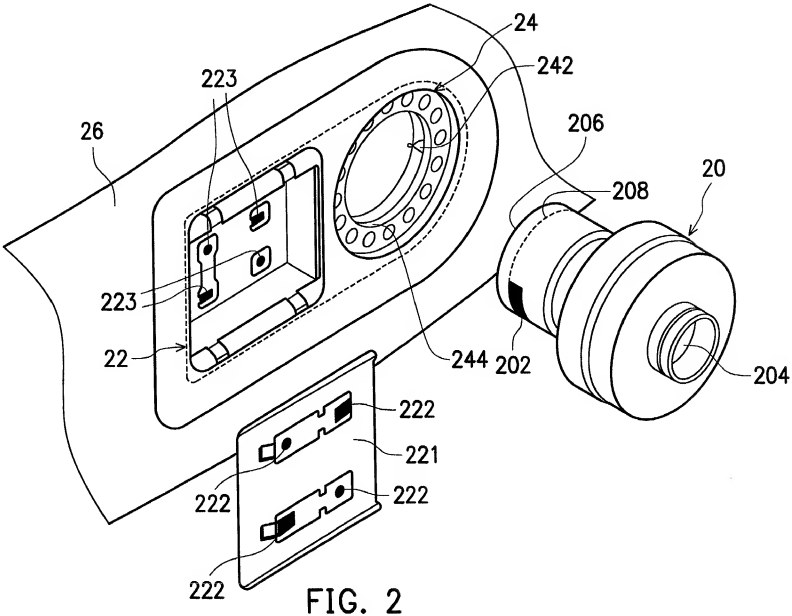

FIG. 2

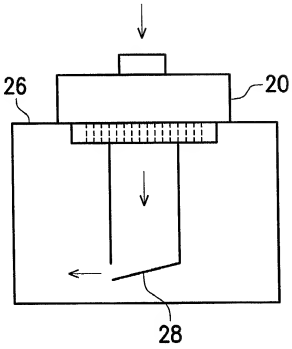

FIG. 3A

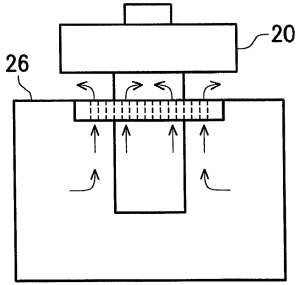

FIG. 3B

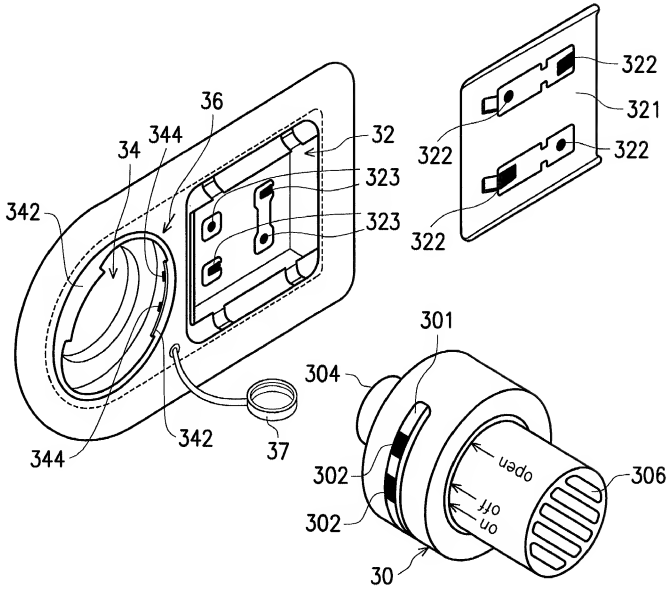

FIG. 4

FIG. 5

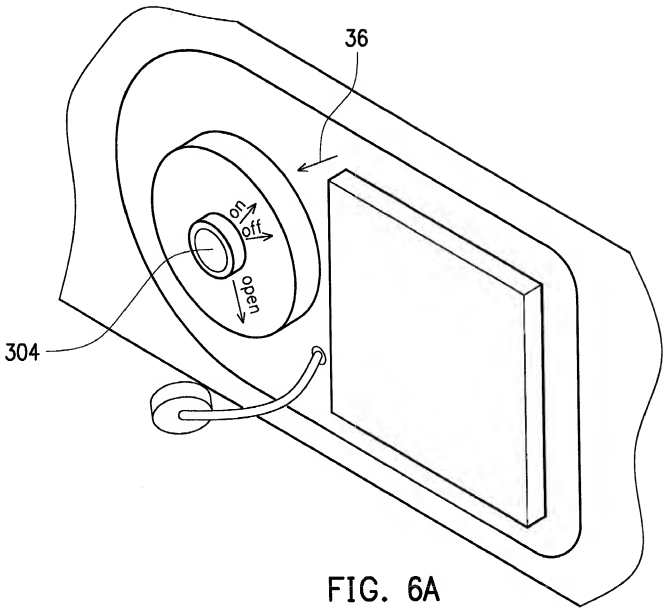

FIG. 6A

FIG. 6B

FIG. 6C

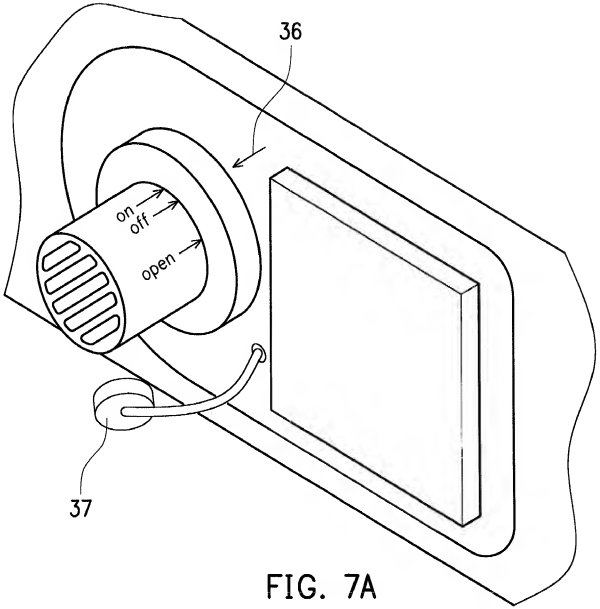

FIG. 7A

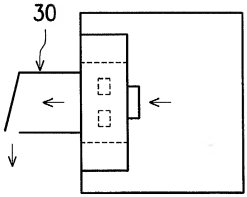

FIG. 7B

Docket No.
TTX0164-US

Declaration and Power of Attorney For Patent Application

English Language Declaration

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

INFLATABLE PRODUCT PROVIDED WITH BUILT-IN BATTERY CASE AND SOCKET

the specification of which

(check one)

☒ is attached hereto.

☐ was filed on _____ as United States Application No. or PCT International Application Number _____

And was amended on _____
(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d) or Section 365(b) of any foreign application(s) for patent or inventor's certificate, or Section 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate or PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)			Priority Not Claimed
(Number)	(Country)	(Day/Month/Year Filed)	☐
(Number)	(Country)	(Day/Month/Year Filed)	☐
(Number)	(Country)	(Day/Month/Year Filed)	☐

I hereby claim the benefit under 35 U.S.C. Section 119(e) of any United States provisional application(s) listed below:

(Application Serial No.) (Filing Date

(Application Serial No.) (Filing Date

(Application Serial No.) (Filing Date

I hereby claim the benefit under 35 U.S.C. Section 120 of any United States application(s), or Section 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. Section 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, C.F.R., Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. *(list name and registration number)*

Michael D. Bednarek, Regn. No. 32,329
Lawrence J. Gotts, Regn. No. 31,163
Aslan Baghdadi, Regn. No. 34,542
Elizabeth M. Roesel, Regn. No. 34,878
David C. Isaacson, Regn. No. 38,500
William J. Healey, Regn. No. 36,160
Michael S. Lee, Reg. No. 41,434
Steven P. Arnheim, Reg.No.43,475
Poh C. Chua, Reg. No.44,615
Michelle Burris, Reg. No. 44,576
Michael A. Oblon, Reg.No.42,956
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Washington, D.C. 20004-2595

Michael D. Bednarek at 202/624-2505

Direct Telephone Calls to: *(name and telephone number)*
Michael D. Bednarek at 202/624-2505

Full name of sole or first inventor WANG CHENG CHUNG	
Sole or first inventor's signature Wang Cheng Chung	Date Mar. 28, 2000
Residence Same as the post office address	
Citizenship Taiwan, R.O.C.	
Post Office Address 12th/Fl., No. 440, Jen Ai Road, Sec. 4, Taipei, Taiwan, R.O.C.	

Full name of second inventor, if any	
Second inventor's signature	Date
Residence	
Citizenship	
Post Office Address	